

Serial Number:

09/900,518A

CRF Processing Date: 5/31/02

Edited by: M. SPENCER

Verified by: (STIC sta

☐

Changed a file from non-ASCII to ASCII

☐

Changed the margins in cases where the sequence text was "wrapped" down to the next line.

#10

☐

Edited a format error in the Current Application Data section, specifically:

ENTERED

☐

Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other

☐

Added the mandatory heading and subheadings for "Current Application Data".

☐

Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐

Changed the spelling of a mandatory field (the headings or subheadings), specifically:

☐

Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:

☐

Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

☐

Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐

Inserted colons after headings/subheadings. Headings edited included:

☐

Deleted extra, invalid, headings used by an applicant, specifically:

☒

Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as

☐

Inserted mandatory headings, specifically:

☐

Corrected an obvious error in the response, specifically:

☐

Edited identifiers where upper case is used but lower case is required, or vice versa.

☐

Corrected an error in the Number of Sequences field, specifically:

☐

A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐

Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected:

☐

Other:

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95



OIPE

RAW SEQUENCE LISTING

DATE: 05/31/2002

PATENT APPLICATION: US/09/900,518A

TIME: 14:04:00

Input Set : A:\PTOMS.txt

Output Set: N:\CRF3\05312002\I900518A.raw

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4 <110> APPLICANT: Allen, Keith D.
5   Zhang, Qin
7 <120> TITLE OF INVENTION: TRANSGENIC MICE CONTAINING CX2 GENE
8   DISRUPTIONS
10 <130> FILE REFERENCE: R-716
12 <140> CURRENT APPLICATION NUMBER: US 09/900,518A
13 <141> CURRENT FILING DATE: 2001-07-06
15 <150> PRIOR APPLICATION NUMBER: US 60/216,178
16 <151> PRIOR FILING DATE: 2000-07-06
18 <160> NUMBER OF SEQ ID NOS: 4
20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 2490
24 <212> TYPE: DNA
25 <213> ORGANISM: Mus musculus
27 <400> SEQUENCE: 1
28 aggctgtccc acccaccatc tgcacccgct gcagcgcccg cgcccctgtc ccgcgcgcta 60
29 gtcgtcattt gtagcccgcc tgccgctccc ggggacccga tcctaccctg ggtgcggggc 120
30 agagcgggca tggcccgtct ggggaccgcc tgccctgcgc tggcgctggc cctggcactt 180
31 gtggcggttg ccctggctgg agtcagagcc cagggcgagc ccttcgagga gcctgactat 240
32 tacagccagg agctctggcg gcgcggggcg tattatgggc atccggagcc tgagccggag 300
33 ccggagctct tctcgccttc aatgcatgaa gacctaggg tggaggagca ggaacagcag 360
34 gagccgcacc agcagggccca cagaactccc aagaaggcca tcaagcccaa gaaggctccc 420
35 aagagggaga agttagtgtc agagacgcct ccaccaggta aaaatagcaa cagaaaaggc 480
36 agaagaagca agaactctga gaaagctgcc agtgatgacc atgggtgtccc tgtggctcat 540
37 gaggatgtca gagagagttg cccacctctt ggtctggaaa cattaataat cacagacttc 600
38 cagctgcatg cctccacatc gaagcggttat ggcctgggag cccaccgggg gagactcaac 660
39 atccaggcag gcattaatga aaatgacttt tacgatgggg ctgggtgtgc tggtaggaac 720
40 gacttgcatc agtggatcga agtggatgcc cggcgccctga ccaagttcac aggggtcatt 780
41 acccaaggaa ggaactctct ctggctgagt gactgggtga catcctataa agtcatggtg 840
42 agcaatgaca gccacacatg ggttactgtg aagaatggat ctggcgacat gatatttgaa 900
43 ggaaacagtg agaaggagat tcctgtgctc aatgagctgc cagtcccat ggtggccccg 960
44 tacattcgca taaaccctca gtccctggtt gataacggga gcatctgcat gaggatggag 1020
45 atcttgggct gccactgcc ggatccta aactattatc accgacgtaa tgagatgacc 1080
46 accacggatg acctggattt taagcaccac aactataagg aaatgcgcca gttgatgaag 1140
47 gttgtcaatg aaatgtgccc caatattacc aggatttaca acattggcaa aagccaccag 1200
48 ggcctgaaat tgtatgcggt agagatctct gaccatcctg gggaacatga agttggtgag 1260
49 cccgagttcc actacatcgc agggggccac ggcaatgagg ttctgggacg agaactgctg 1320
50 ctgctgctgc tgcacttcct ctgccaggaa tactcggcgc agaacgcacg catcgtccgc 1380
51 ttggtggagg agactcgaat ccacattcta ccctccctca atcctgatgg ctatgagaag 1440
52 gcctatgaag gaggttccga gttgggaggc tgggtccctg gacgttggac ccatgatggc 1500
53 atcgatatca acaacaactt tccggattta aactcgctgc tctgggaggc agaggaccag 1560
54 cagaatgccc caaggaaggt cccaaccac tacattgcca tccctgagtg gtttctgtct 1620

```

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```

55 gagaatgcca cagtggccac agagaccaga gccgtcatcg cctggatgga gaagatcccg 1680
56 tttgtgctgg gaggcaacct acaggggggt gagctggctg tggcataccc ctatgacatg 1740
57 gtgcggtccc tgtggaagac ccaggagcac accccaacac ctgatgatca tgtgttccgc 1800
58 tggctggcgt attcctacgc ctccactcac cgcctcatga cagatgccag gaggcgagt 1860
59 tgccacacgg aagattttca gaaggaggag ggcaccgtca atggggcttc ctggcacaca 1920
60 gtggctggaa gtctaaacga ttccagctac ctccatacaa actgctttga gctgtccatc 1980
61 tacgtgggct gtgataaata cccacacgag agcgagctgc cggaggaatg ggagaataac 2040
62 cgggagtcctc tgattgtgtt catggagcag gtccatcgag gcatcaaagg catagtgaga 2100
63 gatttacaag ggaaagggat ttcaaagtct gtcattctctg tggaaggtgt taaccatgac 2160
64 atccggacag ccagcgatgg ggattactgg cgtctactga accctggcga atatgtggtc 2220
65 acagccaagg cggaaggctt tatcacttcc accaagaact gcatggttgg ctatgatatg 2280
66 ggagctactc ggtgtgactt caccctcaca aagaccaacc tggctaggat aagagaaatt 2340
67 atggagacat ttgggaagca gcctgtcagc ctaccctcca ggcgcctgaa gctgcgggga 2400
68 cggaaaaggc ggcagcgtgg gtgaccctgt cggacacttg agacataccc cagaccgtgc 2460
69 aaataaaaat ccactccagt agtaaaaaaa 2490

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71 <210> SEQ ID NO: 2

72 <211> LENGTH: 764

73 <212> TYPE: PRT

74 <213> ORGANISM: Mus musculus

76 <400> SEQUENCE: 2

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77 Met Ala Arg Leu Gly Thr Ala Cys Pro Ala Leu Ala Leu Ala Leu Ala
78 1 5 10 15
79 Leu Val Ala Val Ala Leu Ala Gly Val Arg Ala Gln Gly Ala Ala Phe
80 20 25 30
81 Glu Glu Pro Asp Tyr Tyr Ser Gln Leu Trp Arg Arg Gly Arg Tyr
82 35 40 45
83 Tyr Gly His Pro Glu Pro Glu Pro Glu Leu Phe Ser Pro Ser
84 50 55 60
85 Met His Glu Asp Leu Arg Val Glu Glu Gln Glu Gln Gln Glu Pro His
86 65 70 75 80
87 Gln Gln Gly His Arg Thr Pro Lys Lys Ala Ile Lys Pro Lys Lys Ala
88 85 90 95
89 Pro Lys Arg Glu Lys Leu Val Ala Glu Thr Pro Pro Pro Gly Lys Asn
90 100 105 110
91 Ser Asn Arg Lys Gly Arg Arg Ser Lys Asn Leu Glu Lys Ala Ala Ser
92 115 120 125
93 Asp Asp His Gly Val Pro Val Ala His Glu Asp Val Arg Glu Ser Cys
94 130 135 140
95 Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln Leu His
96 145 150 155 160
97 Ala Ser Thr Ser Lys Arg Tyr Gly Leu Gly Ala His Arg Gly Arg Leu
98 165 170 175
99 Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr Asp Gly Ala Trp
100 180 185 190
101 Cys Ala Gly Arg Asn Asp Leu His Gln Trp Ile Glu Val Asp Ala Arg
102 195 200 205
103 Arg Leu Thr Lys Phe Thr Gly Val Ile Thr Gln Gly Arg Asn Ser Leu
104 210 215 220
105 Trp Leu Ser Asp Trp Val Thr Ser Tyr Lys Val Met Val Ser Asn Asp

```

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106	225					230				235				240		
107	Ser	His	Thr	Trp	Val	Thr	Val	Lys	Asn	Gly	Ser	Gly	Asp	Met	Ile	Phe
108					245					250				255		
109	Glu	Gly	Asn	Ser	Glu	Lys	Glu	Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val
110				260					265					270		
111	Pro	Met	Val	Ala	Arg	Tyr	Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp
112			275					280					285			
113	Asn	Gly	Ser	Ile	Cys	Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro
114		290					295					300				
115	Asp	Pro	Asn	Asn	Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp
116	305					310					315				320	
117	Asp	Leu	Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Leu	Met
118				325						330					335	
119	Lys	Val	Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile
120				340						345				350		
121	Gly	Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp
122			355					360					365			
123	His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	Ala
124		370					375					380				
125	Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	Leu	Leu
126	385					390					395				400	
127	Leu	His	Phe	Leu	Cys	Gln	Glu	Tyr	Ser	Ala	Gln	Asn	Ala	Arg	Ile	Val
128				405						410					415	
129	Arg	Leu	Val	Glu	Thr	Arg	Ile	His	Ile	Leu	Pro	Ser	Leu	Asn	Pro	
130			420						425				430			
131	Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	Leu	Gly	Gly	Trp
132			435					440					445			
133	Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	Asn	Asn	Asn	Phe
134		450					455					460				
135	Pro	Asp	Leu	Asn	Ser	Leu	Leu	Trp	Glu	Ala	Glu	Asp	Gln	Gln	Asn	Ala
136	465					470					475				480	
137	Pro	Arg	Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu
138					485					490					495	
139	Ser	Glu	Asn	Ala	Thr	Val	Ala	Thr	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp
140				500						505				510		
141	Met	Glu	Lys	Ile	Pro	Phe	Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	Glu
142			515							520				525		
143	Leu	Val	Val	Ala	Tyr	Pro	Tyr	Asp	Met	Val	Arg	Ser	Leu	Trp	Lys	Thr
144		530					535					540				
145	Gln	Glu	His	Thr	Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	Ala
146	545					550					555				560	
147	Tyr	Ser	Tyr	Ala	Ser	Thr	His	Arg	Leu	Met	Thr	Asp	Ala	Arg	Arg	Arg
148					565					570					575	
149	Val	Cys	His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	Gly	Thr	Val	Asn	Gly
150				580						585				590		
151	Ala	Ser	Trp	His	Thr	Val	Ala	Gly	Ser	Leu	Asn	Asp	Phe	Ser	Tyr	Leu
152			595					600					605			
153	His	Thr	Asn	Cys	Phe	Glu	Leu	Ser	Ile	Tyr	Val	Gly	Cys	Asp	Lys	Tyr
154		610					615					620				

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Input Set : A:\PTOMS.txt

Output Set: N:\CRF3\05312002\I900518A.raw

```

155 Pro His Glu Ser Glu Leu Pro Glu Glu Trp Glu Asn Asn Arg Glu Ser
156 625          630          635          640
157 Leu Ile Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly Ile Val
158          645          650          655
159 Arg Asp Leu Gln Gly Lys Gly Ile Ser Asn Ala Val Ile Ser Val Glu
160          660          665          670
161 Gly Val Asn His Asp Ile Arg Thr Ala Ser Asp Gly Asp Tyr Trp Arg
162          675          680          685
163 Leu Leu Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu Gly Phe
164          690          695          700
165 Ile Thr Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly Ala Thr
166 705          710          715          720
167 Arg Cys Asp Phe Thr Leu Thr Lys Thr Asn Leu Ala Arg Ile Arg Glu
168          725          730          735
169 Ile Met Glu Thr Phe Gly Lys Gln Pro Val Ser Leu Pro Ser Arg Arg
170          740          745          750
171 Leu Lys Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly
172          755          760
175 <210> SEQ ID NO: 3
176 <211> LENGTH: 200
177 <212> TYPE: DNA
178 <213> ORGANISM: Artificial Sequence
180 <220> FEATURE:
181 <223> OTHER INFORMATION: Targeting Vector
183 <400> SEQUENCE: 3
184 ggcattggccc gtctggggac cgcctgccct gcgctggcgc tggccctggc acttggtggcg 60
185 gtggccctgg ctggagtcag agcccagggc gcagccttcg aggagcctga ctattacagc 120
186 caggagctct ggcggcgcgg gcgctattat gggcatccgg agcctgagcc ggagccggag 180
187 ctcttctcgc cttcaatgca
188          200
189 <210> SEQ ID NO: 4
190 <211> LENGTH: 200
191 <212> TYPE: DNA
192 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: Targeting Vector
197 <400> SEQUENCE: 4
198 gagggagaag ttagttgcag agacgcctcc accaggtaac ttttgcacgc ggcagcccga 60
199 gggggcgcca gcgatcgtg cactccaggg gacacctggc ttccagtatg ttttcttgag 120
200 tgagcccagc caaagtcctg tgggtgcctgt gttattccct agagaactaca tctgagctaa 180
201 gttcagcttt ctctccctgc
202          200

```

VERIFICATION SUMMARY

DATE: 05/31/2002

PATENT APPLICATION: US/09/900,518A

TIME: 14:04:01

Input Set : A:\PTOMS.txt

Output Set: N:\CRF3\05312002\I900518A.raw

Does Not Comply
Corrected Diskette Needed



OIPE

RAW SEQUENCE LISTING

DATE: 05/23/2002

PATENT APPLICATION: US/09/900,518A

TIME: 17:47:37

Input Set : A:\R-716 sequence listing for submission.txt

Output Set: N:\CRF3\05232002\I900518A.raw

4 <110> APPLICANT: Allen, Keith D.
5 Zhang, Qin
7 <120> TITLE OF INVENTION: TRANSGENIC MICE CONTAINING CX2 GENE
8 DISRUPTIONS
10 <130> FILE REFERENCE: R-716
12 <140> CURRENT APPLICATION NUMBER: US 09/900,518A
13 <141> CURRENT FILING DATE: 2001-07-06
15 <150> PRIOR APPLICATION NUMBER: US 60/216,178
16 <151> PRIOR FILING DATE: 2000-07-06
18 <160> NUMBER OF SEQ ID NOS: 4
20 <170> SOFTWARE: FastSEQ for Windows Version 4.0

ERRORED SEQUENCES

189 <210> SEQ ID NO: 4
190 <211> LENGTH: 200
191 <212> TYPE: DNA
192 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: Targeting Vector
197 <400> SEQUENCE: 4
198 gagggagaag ttagttgcag agacgcctcc accaggtaac ttttgcacg ggcagcccga 60
199 gggggcgcca gcatcggtg cactccagg gacacctggc ttccagtatg ttttcttgag 120
200 tgagcccagc caaagtcctg tgggtgctgt gttattccct agagactaca tctgagctaa 180
201 gttcagcttt ctctccctgc 200

E--> 205 1

remove extra material from end
of file

VERIFICATION SUMMARY

DATE: 05/23/2002

PATENT APPLICATION: US/09/900,518A

TIME: 17:47:38

Input Set : A:\R-716 sequence listing for submission.txt

Output Set: N:\CRF3\05232002\I900518A.raw

L:205 M:254 E: No. of Bases conflict, this line has no nucleotides.